

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

T H E C L A I M S

Claim 1 has been amended to recite subject matter of (now canceled) claim 2, and claim 3 has been amended to be rewritten in independent form including all of the limitations of parent claim 1.

Similarly, claim 22 has been amended to recite subject matter of (now canceled) claim 23, and claim 24 has been amended to be rewritten in independent form including all of the limitations of parent claim 22.

Claims 6, 7, 10 and claims 27, 28 and 31, moreover, have been amended to better accord with their respective parent claims.

In addition, the claims have been amended to make some minor grammatical improvements and to correct some minor antecedent basis problems so as to put them in better form for issuance in a U.S. patent.

No new matter has been added and that no new issues have been raised which require further consideration on the merits and/or a new search. Accordingly, it is respectfully requested that the amendments to the claims be approved and entered under 37 CFR 1.116.

THE PRIOR ART REJECTION

Claims 1, 4-9, 11, 12, 15, 16, 18, 20, 21, 25-30, 32, 33, 36, 38 and 39 were rejected under 35 USC 103 as being obvious in view of the combination of USP 6,462,838 ("Hirata et al") and USP 5,754,920 ("Tanaka et al"), and claims 2, 3, 10, 13, 14, 19, 22-24, 31, 34 and 35 were rejected under 35 USC 103 as being obvious in view of the combination of Hirata et al, Tanaka et al and USP 5,600,404 ("Ando et al"), and further in view of well known principles in the image processing art ("Official Notice") or USP 6,898,381 ("Maebashi et al"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

Re: claims 1, 13, 22 and 34

According to the image forming apparatus and the gradation correction method of amended independent claims 1, 13, 22 and 34, a shift between: (i) a specified timing prescribed in advance as a timing at which a measurement of a head part of the gradation pattern is started, and (ii) a timing at which a measured value having a largest change of measured light quantity value in a vicinity of the specified timing is measured, is detected as the shift of the measurement timing, based on the measured values measured at the fixed interval timing. In addition, as recited

in amended independent claims 1, 13, 22 and 34, the detected shift of the measurement timing is corrected.

On page 13 of the Final Office Action, the Examiner agrees that Hirata et al does not disclose or suggest that the timing correcting unit detects a shift between a specified timing prescribed in advance as a timing at which a measurement of a head part of the gradation pattern is started. For this reason, the Examiner has cited Ando et al.

And according to the Examiner, the correction of measurement timing of the claimed present invention whereby the shift of the measurement timing is detected by using the timing at which a measured value having a largest change of measured light quantity value in a vicinity of the specified timing is measured corresponds to the timing correction disclosed by Tanaka et al. Applicant respectfully disagrees.

Tanaka et al merely discloses a technique for correcting a timing to start the next sampling if an absolute value of a change in detection values between different sampling points exceeds a reference value. However, it is respectfully submitted that Tanaka et al does not disclose or suggest the feature of the present invention as recited in amended independent claims 1, 13, 22 and 34 whereby the shift of the measurement timing is detected by using the timing at which a measured value having a largest

change of measured light quantity value in a vicinity of the specified timing is measured.

In addition, it is respectfully pointed out that with the technique of Tanaka et al, it is difficult to accurately correct the measurement timing if noise is imposed on sampling data. However, this is not the case in the claimed present invention whereby the correction of the measurement timing is performed with accuracy. See the disclosure of this advantage in the specification at, for example, page 7, line 25 to page 8, line 19.

Still further, it is respectfully submitted that Ando et al also does not disclose or suggest the detection and correction of the shift of the measurement timing as according to the present invention as recited in independent claims 1, 13, 22 and 34.

Re: claims 3, 14, 24 and 35

According to the image forming apparatus and the gradation correction method of amended independent claims 3, 14, 24 and 35, a shift between: (i) a specified timing prescribed in advance as a timing at which a measurement of a head part of the gradation pattern is started, and (ii) a timing at which a measured value near to an intermediate light quantity value of measured values in a vicinity of the specified timing is measured, is detected as the shift of the measurement timing, based on the measured values

measured at the fixed interval timing. In addition, as recited in amended independent claims 3, 14, 24 and 35, the detected shift of the measurement timing is corrected.

On page 16 of the Final Office Action, the Examiner agrees that Hirata et al fails to disclose or suggest the timing at which a measured value near to an intermediate light quantity value of measured values in a vicinity of the specified timing is measured, as the shift of the measurement timing, based on the measured values measured at the fixed interval timing. For this reason, the Examiner has taken an Official Notice with respect to interpolation practices being well known in the art of image processing to use a discrete set of known data points to achieve new, more accurate data points. However, the Examiner's taking of Official Notice is respectfully traversed and it is respectfully requested that the Examiner provide documentary evidence to support the taking of Official Notice, if the Examiner maintains this position. (See MPEP 2144.03 C)

More specifically, it is respectfully submitted that the fact asserted by the Examiner is not "capable of instant and unquestionable demonstration as being well-known" as is required when Official Notice unsupported by documentary evidence is taken (MPEP 2144.03 A). Indeed, the feature of the present invention as recited in independent claims 3, 14, 24 and 35 whereby the shift of the measurement timing is detected by using the timing

at which a measured value near to an intermediate light quantity value of measured values in a vicinity of the specified timing is measured was determined by the inventors of the present invention. See the disclosure in, for example, Fig. 11 and page 59, lines 4-15 in the specification.

It is respectfully submitted that the above feature was not "capable of instant and unquestionable demonstration as being well-known" at the time the present invention was made, and the Examiner's taking of Official Notice is respectfully traversed.

In addition, it is respectfully submitted that the newly cited Tanaka et al also does not disclose or suggest the feature of correction of measurement timing as according to the present invention as recited in amended independent claims 3, 14, 24 and 35 whereby the shift of the measurement timing is detected by using the timing at which a measured value near to an intermediate light quantity value of measured values in a vicinity of the specified timing is measured.

Still further, as described above in connection with the rejection of claims 1, 13, 22 and 34, with the technique of Tanaka et al, it is difficult to accurately correct the measurement timing if noise is imposed on sampling data. However, this is not the case in the claimed present invention whereby the correction of the measurement timing is performed with accuracy. See the disclosure of this advantage in the

specification at, for example, page 7, line 25 to page 8, line 19.

Yet still further, it is respectfully submitted that Ando et al also does not disclose or suggest the detection and correction of the shift of the measurement timing as according to the present invention as recited in amended independent claims 3, 14, 24 and 35.

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In view of the foregoing, it is respectfully submitted that amended independent claims 1, 3, 13, 14, 22, 24, 34 and 35, as well as claims 4-12 and 25-33 respectively depending therefrom, all patentably distinguish over the cited prior art references, taken singly or in any combination, under 35 USC 103.

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

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